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CARBIDE AND CARBON CHEMICALS CORP.

ENGINEERING DIVISION

PROCESS DEVELOPMENT DEPARTMENT

Report No.: 1.13.4

Date: 2/13/46

To: S. Cromer

LOSS OF PRODUCT IN THE PURGE GASES

Written by: S. H. Smiley

A request was made to study the losses of C-616 in the purge gases in the 312 section to determine whether they would warrant the expense of maintaining a H₂O Cold Trap room ready for use when the C-616 concentration rises above normal. Mr. Weebcke's group checked the strip chart from the Space Recorder B in building 312-2 for the period Dec. 7-28, 1945. Also studied were the approximate purge rates for the corresponding periods. These rates were calculated from the daily charts for flow elements 4105 and 4106 in building 312-2. Table I shows the times at which the concentration of C-616 in the purge gases leaving this section was above normal.

The product loss was calculated for the period from 6:30 to 7:35 p.m. on 12/9/45 and this loss was found to be less than the expense of running a cold trap room for a day.

Dr. M. Benedict does not feel that this study is conclusive and that a long term study should be made of this problem. At his request, therefore, such a program has been started. As of 1/24/46, hourly average concentrations reported by the Space Recorder, and hourly average purge rate data are being collected and evaluated by the Process Test Group. A report on the findings will be issued when enough information is obtained.

S. H. Smiley
S. H. Smiley

J. L. Waters
J. L. Waters

/clh

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This document has been approved for release
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Ray W. Hallen *A.S. Quist* 8/10/95
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TABLE I

STUDY OF LOSS OF C-616 IN PURGE GASES - 312 SECTION

<u>Time</u>	<u>Date</u>	<u>Mol % 616 in Purge Gases</u>	<u>Purge Rate scf/hr.</u>
4:53 p.m.	12/9/45	8.4×10^{-5}	102
6:49		15×10^{-5}	59
10:08 - 10:15		10.5×10^{-5}	95
10:20 - 12:20		6.3×10^{-5}	95
6:37 p.m.		2.6×10^{-3}	239
6:43		8.3×10^{-3}	239
6:48		4.0×10^{-3}	239
6:55		1.54×10^{-3}	239
7:20		12.3×10^{-5}	239
7:30		1.1×10^{-2}	239
7:35		5.4×10^{-2}	239
1:15 a.m.	12/10/45	4.6×10^{-4}	78
1:58		6.6×10^{-4}	73
2:40 - 4:45		6.3×10^{-5}	103
5:00 - 6:40		12.3×10^{-5}	117
10:00 - 10:10		1.74×10^{-4}	99
1:18 p.m.		5.0×10^{-4}	150
6:05 - 6:10		4.5×10^{-4}	105
4:20 p.m.	12/11/45	2.4×10^{-4}	104
5:10 - 6:40		2.4×10^{-4}	78
9:20 a.m. - 1:40 p.m.	12/18/45	6.3×10^{-5}	60
10:10 p.m.	12/21/45	1.5×10^{-4}	97

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